Claims

1. An ultrasound signal tracking method comprising selecting signals from a first subset of resonators chosen from a plurality of resonators forming a transducer array and subsequently selecting signals from a second subset of the plurality of resonators responsive to a comparison between returns received at one or more resonators in the first subset with returns received at one or more resonators in the second subset.

2. An ultrasound signal tracking method comprising selecting a first subset of resonators from a plurality of resonators forming a transducer array such that elements of said first subset are in a predetermined physical arrangement relative to a first resonator receiving a return meeting a predetermined condition, and monitoring returns received by each of said resonators in said first subset such that when a return meeting said predetermined condition is received by a second resonator in said subset other than said first resonator, a second subset of resonators is selected in a predetermined physical arrangement relative to said second resonator.

3. A method as claimed in Claim 2, wherein said predetermined condition is a return of signal strength greater than the returns received by said other resonators in said subset.

4. A method as claimed in Claim 2, wherein said predetermined condition is a correlation coefficient greater than the correlation coefficient from said other resonators in said subset, when correlated with a stored reference signal.

5. A method as claimed in any preceding claim, wherein said second subset differs from said first subset.

6. A method as claimed in any preceding claim, wherein said second subset includes at least some resonators included in said first subset.

7. A method as claimed in any preceding claim, wherein said second subset includes said first resonator.

8. A method as claimed in any preceding claim in which said second subset is centred upon said second resonator.

9. A method as claimed in any preceding claim, wherein at least one of said first and said second subsets comprises an hexagonal arrangement of six resonators centred around a single seventh resonator.

10. A method as claimed in any preceding claim, wherein both of said first and said second subsets comprises an hexagonal arrangement of six resonators centred on a single seventh resonator.

11. A method according to any preceding claim in which selection of the second subset is automated.

12. A method according to any one of claims 1-11 in which selection of the second subset is effected manually.

13. A method according to any preceding claim in which the plurality of resonators forming the transducer array are regularly arranged.

14. A method according to any preceding claim in which the plurality of resonators forming the transducer array are arranged in a regular hexagonal arrangement.

15. A method according to any preceding claim further comprising performing phase comparison to obtain directional Doppler information.

16. A method according to any preceding claim further comprising performing depth selection.

17. An ultrasound transducer arranged to perform the method of any preceding claim.

18. An ultrasound transducer according to claim 17 comprising a plurality of resonators and a switch operable in response to instructions from a controller to select subsets of said resonators, said controller being operable to select a first subset of resonators from said plurality of resonators such that said first subset is centred on a resonator receiving a return meeting a predetermined condition, said controller being further operable to monitor returns received by each of said resonators in said first subset such that when a return meeting said predetermined condition is received by another resonator in said subset other than that on which the subset is centred, said switch is instructed to select a second, different subset of resonators centred on said another resonator.

19. A transducer as claimed in claims 18, in which the resonators are operable at a plurality of frequencies, and said controller is operable to select for a given frequency, respective first and second subsets of resonators for operation.

20. A transducer as claimed in any one of claims 17-19, wherein the resonators are arranged on a convex surface.

21. A transducer as claimed in any one of claims 17-19, wherein the resonators are arranged at differing angles across a substantially flat surface.

22. A transducer as claimed in any one of claims 17-21, wherein the resonators in said first and said second subsets differ.

23. An ultrasound transducer system arranged to perform the method of any one of claims 1-16.

24. An ultrasound transducer system according to claim 23 comprising a transducer in accordance with any one of Claims 17-22, wherein a signal from the transducer provides an output signal to a monitor connectable in use thereto, the output signal being derived from the resonator based upon which the subset of resonators was selected.

25. A system as claimed in Claim 24, wherein the output signal is a directional Doppler signal.

26. A system as claimed in any one of claims 24-25, wherein the output signal is maximised through the application of range gating to the output signals of the subset of resonators.

27. A system as claimed in any one of Claims 22-26, wherein the transducer is wirelessly connected to the monitor.